

Amendments

Please amend the above-identified U.S. application as follows:

In The Claims

Kindly enter the claim amendments, without prejudice, as set forth below. A complete listing of the claims is provided, with a parenthetical indication of the status of each claim, and markings to show current changes.

CLAIMS

1. (canceled) A self-lubricating connector, selected from the group consisting of bearings, bushings, rollers and gears, comprising:
 - a tubular insert having an outer substrate and an inner load bearing layer bonded thereto;
 - a member integrally engaged with the outer substrate and extending circumferentially about the tube;
 - the load bearing layer including a lubricious plastic material selected from the group consisting of fluoropolymers, polyimide and aromatic ketones, and combinations thereof.
2. (canceled) The self-lubricating connector of claim 1, wherein:
 - the tubular insert is disposed in concentric, in-situ-molded relationship with the molded member; and
 - the member is fabricated from a polymeric material.
3. (canceled) The self-lubricating connector of claim 1, wherein the member is formed by molding member material onto the outer substrate.

4. (currently amended) The self-lubricating connector of claim 264, wherein the member is formed by injection molding.
5. (currently amended) The self-lubricating connector of claim 264, wherein the tubular laminate~~insert~~ further comprises a bonding layer between the load bearing layer and the substantially planar surface of the substrate.
6. (currently amended) The self-lubricating connector of claim 264, wherein said member is fabricated from a material selected from the group consisting of:
fluoropolymers, acetal, polycarbonate, polyimides, polyetherimide, polyetherketone (PEEK), polyethylene, polypropylene, polysulfones (e.g., polyethersulfone), polyamide (Nylon), polyphenylene sulfide; polyurethane, polyester, polyphenylene oxide, and blends and alloys thereof.
7. (currently amended) The self-lubricating connector of claim 264, wherein the member has a substantially cylindrical surface, the tubular ~~insert~~laminate is substantially cylindrical, and the substrate is disposed in surface to surface engagement with the substantially cylindrical surface of the member.
8. (currently amended) The self-lubricating connector of claim 7, wherein said cylindrical surface comprises an inner diameter of said member, and said load bearing~~connector~~ layer is disposed on an inner surface of said substrate.
9. (original) The self-lubricating connector of claim 8, wherein said member further comprises an outer surface, said outer surface being substantially cylindrical and disposed concentrically with said cylindrical surface.

10. (original) The self-lubricating connector of claim 9, wherein the member comprises a wheel.
11. (currently amended) The self-lubricating connector as set forth in claim 264, wherein the substrate is fabricated from a metallic material.
12. (previously amended) The self-lubricating connector as set forth in claim 11, wherein said substrate is fabricated from steel.
13. (previously amended) The self-lubricating connector as set forth in claim 11, wherein said substrate is fabricated from aluminum.
14. (currently amended) The self-lubricating connector as set forth in claim 264, wherein said load bearing layer further comprises at least one filler selected from the group consisting of carbon, graphite, aluminum oxide, silicon carbide, boron nitride, silicon nitride, glass, bronze, fluoropolymer, silicone, molybdenum disulfide, and combinations thereof.
15. (canceled) The self-lubricating connector as set forth in claim 1, wherein said member is fabricated from a metallic material.
16. (currently amended) The self-lubricating connector as set forth in claim 54, wherein said load bearing layer and said bonding layer~~adhesive~~ are fabricated as a monolayer comprising a polymer blend.
17. (previously amended) The self-lubricating connector as set forth in claim 16, wherein said monolayer comprises PFA and PTFE.

18. (previously amended) The self-lubricating connector as set forth in claim 17, wherein said monolayer is alternately produced by melt extrusion if PFA is predominant and by sheet skiving if PTFE is predominant.
19. (currently amended) The self-lubricating connector of claim 261, wherein the member further comprises a peripheral engagement surface adapted for engagement with another component.
20. (previously amended) The self-lubricating connector of claim 19, wherein said peripheral engagement surface is substantially cylindrical and is adapted for rolling engagement with said other component.
21. (withdrawn) A method of fabricating a self-lubricating connector comprising the steps of:
 - (a) providing a substantially planar substrate;
 - (b) fastening a load bearing layer of lubricious material onto the substrate with an adhesive film;
 - (c) applying heat and pressure to the load bearing layer, to cause the adhesive film to bond the load bearing layer to the substrate;
 - (d) forming the substantially planar surface of the substrate into a tube the load bearing layer disposed on an inner surface thereof;
 - (e) molding a member from a polymeric material; and
 - (f) disposing the substrate in surface to surface engagement with an inner tubular surface of a member, wherein the member extends circumferentially about the tube to form the self-lubricating connector.
22. (canceled) The self-lubricating connector of claim 1, wherein the substrate and member are configured for mutual press-fitting or snap-fitting.

23. (original) A self-lubricating roller bearing comprising:
 - a cylindrical insert having a substrate and a load bearing layer bonded to an inner surface of the insert;
 - the insert being formed by the process of applying the load bearing layer to a substantially planar surface of the substrate, applying heat and pressure thereto to make a laminate and forming the laminate into a tubular cylinder having an inner load bearing layer; and
 - a member integrally engaged with the substrate to extend circumferentially about the tubular cylinder;
 - the member being fabricated from a polymeric material;
 - the member having a peripheral cylindrical engagement surface adapted for rolling engagement with a component, wherein the self-lubricating roller bearing is adapted for simultaneous movable engagement with at least two discrete components.
24. (withdrawn) A roller with self-lubricating bearing, comprising:
 - a tubular insert, having:
 - an outer substrate; and
 - an inner load bearing layer bonded thereto;
 - a molded, polymeric roller;
 - the tubular insert disposed in concentric, in-situ-molded relationship with the molded, polymeric roller; and
 - the roller extending circumferentially about the tube.
25. (canceled) The self-lubricating connector of claim 1, wherein:
 - said member comprises a molded, polymeric roller, with the tubular insert being disposed in concentric, in-situ-molded relationship therewith.

26. (new) A self-lubricating connector comprising:

inner, intermediary, and outer cylindrical layers;

the inner and intermediary layers configured as a tubular laminate of, respectively, a lubricious plastic material bonded to a substrate, wherein the inner layer forms a load bearing layer;

the substrate having greater tensile strength than the inner layer;

the outer layer configured as a molded roller member;

the roller member fabricated from a material selected from the group consisting of thermosetting and thermoplastic resins, and combinations thereof;

the roller material having a melting point below that of the intermediary layer; and

the inner and intermediary layers being disposed in in-situ-molded relationship with the molded roller.

27. (new) The self-lubricating connector of claim 26, wherein the load bearing layer includes a lubricious plastic material selected from the group consisting of fluoropolymers, polyimide and aromatic ketones, and combinations thereof.

Remarks

The Applicants believe that this amendment places the subject application in better condition for allowance and in so doing introduces no new issues. Therefore, entry of this Amendment, reconsideration of the application, and allowance of all claims pending herein is respectfully requested.

Claims 1-25 were previously presented in the subject application. Claims 21 and 24 stand withdrawn pursuant to a previous restriction requirement. By the foregoing amendment, claims 4-8, 11, 14, 16, 19 have been amended to more particularly point out and distinctly claim the inventive material of the subject invention. New claims 26 & 27 are added. Claims 1-3, 15, 22 & 25 are canceled. Claims 4-14, 16-20, 23 and 26-27 remain in this case.